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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/856,179	08/06/2001	Yasukazu Nishi	204709US2PCT	3193

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EXAMINER

SHARON, AYAL I

ART UNIT	PAPER NUMBER
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2123

DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/856,179

Applicant(s)

NISHI, YASUKAZU

Examiner

Ayal I. Sharon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 June 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/21/2001.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: See Continuation Sheet.

Continuation of Attachment(s) 6). Other: Req. for Info Under 37 CFR 1.105.

DETAILED ACTION

Introduction

1. Claims 1-4 of U.S. Application 09/856,179 filed on 06/05/2001 are presented for examination. This application is the is a national stage entry of PCT/JP00/04834, with an International Filing Date of 07/19/2000.

Information Disclosure Statement

2. The PCT International Search Report lists an "X" reference that is also listed by the Applicants in the IDS filed 11/21/2001, as follows:

Kyouichi NISHI, et al., pages 79-80, "MULTI-AGENT NI YORU KOUZOU KAISEKI NO KOKOROMI", 1999.

However, the Examiner was unable to find such an article. Instead, there is a two page Japanese language reference, provided by the applicants, that is authored by Yasukazu Nishi (not Kyouichi Nishi) et al., and has an English language title of "Structural Analysis Based on Multiple Agents." The page numbers of this reference (pp.79-80) are identical to that of the reference listed in the IDS.

Examiner therefore interprets that the title of the article cited in the IDS is the Japanese language title of the Yasukazu Nishi reference, and that the Yasukazu Nishi name is mistakenly written as Kyouichi Nishi in the IDS. Furthermore, only the abstract of the article is in English. Examiner has corrected the IDS to reflect these issues.

Preamble of the Claims

3. The preambles of the claims presented for examination have been given patentable weight.

Claim Interpretations

4. Examiner interprets the ellipsis marks in "... an n-th material agent" in claims 1 and 3 as corresponding to "up to an n-th material agent."

Claim Objections

5. Claims 1 and 3 are objected to because of the following informalities: "said method comprising" should be followed by a semi-colon, as in "said method comprising;". Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. The prior art used for these rejections is as follows:
8. Nishi, Yasukazu et al., "Structural Analysis Based on Multiple Agents." July 29, 1999. (Henceforth referred to as "**Nishi**").

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9. The claim rejections are hereby summarized for Applicant's convenience. The detailed rejections follow.

10. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishi.

11. In regards to Claim 1,

1. A calculation method for physical body deformation under load propagation which is a method of displaying a load propagation displacement of a physical body on a rigid physical body which undergoes displacement constraint from a surrounding in a boundary which does not undergo the displacement constraint from a surrounding, said method comprising

a first material agent having a shape of a hexahedron or a plane virtually formed in the physical body at a position of a load exerted to an arbitrary position of the physical body,

(See Nishi: Abstract, and Fig.3, Item E)

a second material agent having the same shape virtually formed at a contiguous face other than a face of the first material agent exerted with the load,

(See Nishi: Abstract, and Fig.3, Items D and F)

a third, a fourth,... an n-th material agent virtually formed similarly and successively up to a boundary between the physical body and the boundary which does not undergo the displacement constraint in the physical body and /or the rigid physical body which undergoes the displacement constraint and boundary agents having predetermined shapes virtually formed at a contact face between the physical body and the boundary which does not undergo the displacement constraint and /or the rigid physical body which undergoes the displacement constraint,

(See Nishi: Abstract, and Fig.3, Items A,B,C and G,H,I)

wherein in the material agents, with regard to a direction of the load, a predetermined load in accordance with a material property thereof is transmitted to an upper face and a lower face of the physical body in the load direction,

(See Nishi: Abstract, and Fig.2, Items P1 and P2, which are the load force vectors)

a predetermined load in accordance with a strain characteristic of the physical body is transmitted to a face orthogonal to the load direction and

(See Nishi: Abstract, and Fig.3, Item P2, which are force vectors from Item E to Items D and F)

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a load which undergoes the predetermined displacement constraint is transmitted to an upper face in the load direction of other material agent contiguous to the material agent,

(See Nishi: Abstract, and Fig.2, the displacement of the top, right and left faces of Item E)

with regard to the load, in the boundary agent formed in the boundary which does not undergo the displacement constraint, a load having a value the same as a value of the load from the contiguous material agent in the load direction is transmitted, and

(See Nishi: Abstract, and Fig.2, Item E, bottom face)

in the boundary agent formed in the rigid physical body which undergoes the displacement constraint, with regard to the load from the contiguous material agent, a load having a value the same as a value of the load is transmitted in a direction reverse to a direction of the load to thereby display the load propagation displacement of the physical body.

(See Nishi: Abstract, and Fig.2, Item E, bottom face. Given that the bottom face does not move, there inherently must be an equilibrium between the force of the load, and the force in the opposite direction)

12. In regards to Claim 2,

2. The display method according to Claim 1, characterized in that the first through the n-th material agents are formed in a load propagation direction when the transmitted load is larger than a predetermined threshold value.

(See Nishi: Abstract, and Fig.4, "Result of deformation")

13. In regards to Claim 3,

3. A computer readable record medium recorded with a program for displaying a load propagation displacement of a physical body by a method of displaying a load propagation displacement of a physical body on a rigid physical body which undergoes displacement constraint from a surrounding in a boundary which does not undergo the displacement constraint from a surrounding by a computer screen, said method comprising

a first material agent having a shape of a hexahedron or a plane virtually formed in the physical body at a position of a load exerted to an arbitrary position of the physical body,

(See Nishi: Abstract, and Fig.3, Item E)

a second material agent having the same shape virtually formed at a contiguous face other than a face of the first material agent exerted with the load,

(See Nishi: Abstract, and Fig.3, Items D and F)

a third, a fourth,... an n-th material agent virtually formed similarly and successively up to a boundary between the physical body and the boundary which does not undergo the

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displacement constraint in the physical body and /or the rigid physical body which undergoes the displacement constraint and boundary agents having predetermined shapes virtually formed at a contact face between the physical body and the boundary which does not undergo the displacement constraint and / or the rigid physical body which undergoes the displacement constraint,

(See Nishi: Abstract, and Fig.3, Items A,B,C and G,H,I)

wherein in the material agents, with regard to a direction of the load, a predetermined load in accordance with a material property thereof is transmitted to an upper face and a lower face of the physical body in the load direction,

(See Nishi: Abstract, and Fig.2, Items P1 and P2, which are the load force vectors)

a predetermined load in accordance with a strain characteristic of the physical body is transmitted to a face orthogonal to the load direction and

(See Nishi: Abstract, and Fig.3, Item P2, which are force vectors from Item E to Items D and F)

a load which undergoes the predetermined displacement constraint is transmitted to an upper face in the load direction of other material agent contiguous to the material agent,

(See Nishi: Abstract, and Fig.2, the displacement of the top, right and left faces of Item E)

with regard to the load, in the boundary agent formed in the boundary which does not undergo the displacement constraint, a load having a value the same as a value of the load from the contiguous material agent in the load direction is transmitted, and

(See Nishi: Abstract, and Fig.2, Item E, bottom face)

in the boundary agent formed in the rigid physical body which undergoes the displacement constraint, with regard to the load from the contiguous material agent, a load having a value the same as a value the load is transmitted in a direction reverse to a direction of the load to thereby display the load propagation displacement of the physical body.

(See Nishi: Abstract, and Fig.2, Item E, bottom face. Given that the bottom face does not move, there inherently must be an equilibrium between the force of the load, and the force in the opposite direction)

14. In regards to Claim 4,

4. The computer readable record medium recorded with the program according to Claim 3, characterized in that the first through the n-th material agents are formed in a load propagation direction when the transmitted load is larger than a predetermined threshold value.

(See Nishi: Abstract, and Fig.4, "Result of deformation")

Conclusion

15. Applicant and the assignee of this application are requested to provide the following information that the examiner has determined is reasonably necessary to the continued examination of this application: an English language translation of the "Structural Analysis Based on Multiple Agents" article by Yasukazu Nishi et al. that was presented by the Applicant in the IDS dated 11/21/2001.

Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ayal I. Sharon whose telephone number is (571) 272-3714. The examiner can normally be reached on Monday through Thursday, and the first Friday of a biweek, 8:30 am – 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Teska can be reached at (571) 272-3716.

Any response to this office action should be faxed to (703) 872-9306, or mailed to:

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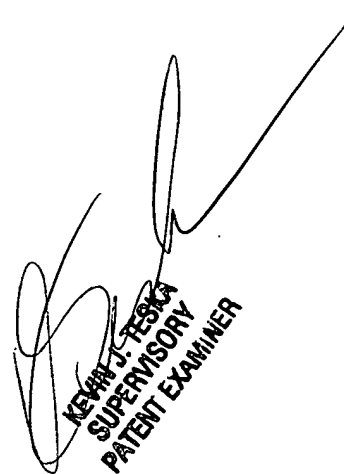
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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Tech Center 2100 Receptionist, whose telephone number is (571) 272-2100.

Ayal I. Sharon

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May 12, 2005



KEVIN J. TESIG
SUPERVISORY
PATENT EXAMINER